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U.S. effort to protect research may kill it off, scientists fear

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PROF. HAJIME Sakai was shocked last month when Defense Department officials ordered him at the last minute not to present two technical papers at a scientific conference in San Diego.

"All the information in my papers was available in open literature or developed as the result of our experiment," says Sakai, 54, a physics teacher at the University of Massachusetts. Although his research in atmospheric physics was funded by the government, it was not classified secret. Indeed, it couldn't have been under the university's rules that all research results be freely and openly circulated.

The government action against Sakai was not isolated. Defense Department censorship resulted in more than 90 of some 500 research papers being withdrawn from presentation at the 26th international symposium of the Society of Photo-Optical Instrumentation Engineers in late August.

The San Diego affair highlights the mounting conflict between the government's exercise of export controls to protect national security versus the need to nourish the free flow of technical information. The conflict has broken into the open because of the Reagan administration's broad crackdown on dissemination of sensitive technological know-how, including information produced in universities and scientific laboratories.

"WHAT HAPPENED in San Diego is very serious," says Gerald Lieberman, vice provost and dean of graduate studies and research at Stanford University. "It is a prototype of just the thing we fear."

Defense Department officials say they took action because four Russians attending the conference could have gleaned valuable information on sensitive U.S. technology in weapons systems and sophisticated instrumentation using optical systems and

The high-tech crackdown

The U.S. government has launched a major effort to stem the flow of militarily sensitive technology to the Soviet Union. The last of a three-part series examines the conflict between limiting access to information deemed vital to the national security versus the need to nourish the free flow of technical knowledge.

computers. They dispute the contention of many authors, such as Sakai, that their papers concerned basic, rather than applied, research.

"The sense here is that a significant security disaster was averted by the action taken," says Stephen Bryen, deputy assistant secretary of defense for trade and security policy.

Scientists and academicians interviewed by The Tribune don't dispute the government's need to control critical military technology. And they agree that the Soviets, whose closed society inhibits the flow of information, benefit from contact with the open Western countries. But they add that Russian scientists have good ideas and that the administration underestimates the value of even limited U.S. access to Soviet know-how and that nation's scientists.

THE SCIENTIFIC community fears that the administration is casting its control net so wide that it will choke off internal as well as external communication and thus harm this country's ability to innovate.

"The danger is that the administration will kill the baby to keep it from being stolen," says a scientist and longtime Defense Department consultant on export controls.

Apart from the actions taken in San Diego, the government's crackdown

is being felt elsewhere:

- A long-term, \$225 million Defense Department program funding corporate and university development of advanced electronics to enable the U.S. to maintain its lead in military electronics has become a "lightning rod attracting the concerns of the academic community," according to a National Academy of Science study. Major universities have declined to participate in this Very-High-Speed-Integrated-Circuits (VHSIC) program because of restrictions against having foreign nationals work on it and limits on the publication of research results, the study found.

- Plans for the Soviet Union to ship about \$1 million worth of high-technology equipment next year to the Fermi National Accelerator Laboratory outside Chicago for use in a cooperative basic science experiment in particle physics may be jeopardized by the administration's refusal early this year to renew the agreement for this and other projects that have been in place for several years. This has occurred despite the administration's assurance that basic science will not be affected by technology export controls.

- Last spring the State Department tried to restrict what Soviet robot expert Nikolay Umnov could see on his planned visit to Stanford University. After the university protested these restrictions as unnecessary and damaging to scientific endeavors, State seemingly relented but then refused to issue Umnov a visa.

THE ADMINISTRATION is expanding up on previous government efforts to keep sensitive technology from going to communist countries. For example, in early 1980, just weeks after the Soviet invasion of Afghanistan, scientists from the USSR and its allies were barred by the Carter administration from attending two international conferences in California on computer technology

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